



Personality Traits, Depression and Coping Strategies among Female Victims of Sexual Violence in Goma Province of North-Kivu, Democratic Republic of Congo

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Abstract

The study aimed to investigate the relationship between personality traits, depression and coping strategies among sexual violence victims. A quantitative approach and a correlational research design were used in this study. A sample size of 76 females sexually abused within Kyshero and Heal Africa hospitals was obtained using the sample random sampling technique. Data analysis was done using Statistical Package for Social Sciences (SPSS) version 21 and the Pearson product-moment correlation (r) was used to test the hypotheses. Results indicated that only two personality traits, extraversion and neuroticism, were all significantly related to depression. The results further show that there was a significant negative relationship only between neuroticism and coping strategies and that there was a relationship between depression and coping strategies. The study concluded that sexual violence victims with neurotic personality traits are prone to depression whereas those who are extraverted are less exposed to it. Furthermore, the victims with neurotic personality traits are less likely to cope with the abuse. Lastly, the study concluded that the more the victims are depressed, the less they cope with the abuse. Thus, this study recommends that while providing psychosocial support to victims of sexual violence, the individual's personality trait should be taken into consideration as this relates to how the individual will cope.

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1. Introduction

The psychological consequence of sexual violence is grave and multidimensional; sexual violence has been identified by psychologists as the most intrusive traumatic events which in most cases leaves the victims with long-term depression resulting in excessive use of negative coping strategies (Campbell, Dworkin, & Cabral, 2009) ^[7]. Sexual violence is a wide public health problem that has profound impact on lifelong health, opportunity, and well-being given the number of people who are sexually abused (Basile, Smith, Breiding, & Mahendra, 2014) ^[4]. The population in the eastern Democratic Republic of Congo (DRC) has been terrorized by widespread sexual violence for decades (Van Wieringen, 2020).

Depression is a significant contributor to the global burden of disease and affects people in all communities across the world (WHO, 2012). Globally an estimated 322 million people were affected by depression, this number increased between 2005 and 2017 (WHO, 2017). Study carried out by Talbot, Duberstein, King, Cox, and Giles, (2000) showed how the traumatic experience such as sexual abuse affects the victim's personality traits.

Personality traits are defined as relatively enduring and automatic patterns of thoughts, feelings, and behaviors that are elicited in trait-affording situations, and that can and do change over time (Roberts, 2009) ^[34]. Research into the relationship between personality and psychopathology has established that there exist robust associations between personality traits and mental

disorders. A meta-analysis by Kotov *et al.* (2010) ^[25] showed that 92% of patients with depression scored higher than non-clinical samples on neuroticism, and lower on extraversion and conscientiousness. It is also well known that personality traits may impact the evaluation of stress and affect the utilization of coping strategies (Connor-Smith, & Flachsbart, 2007) ^[8]. In the 80th decade a structure that was called "coping" has been coming to psychology literature (Billings and Moos, 1984) ^[6]. Coping is defined as the use of cognitive and behavioral strategies for dealing with the perceived pressures demands, and emotions involved in stressful situations (Luyckx, Klimstra, Duriez, Schwartz, & Vanhalst, 2012).

Generally, studies show that people with high neuroticism traits participate in inactive and unsuitable coping styles, while people with high extraversion traits follow active and special protection coping styles (Costa & McCrae, 1992) ^[9]. Furthermore, the study of Nejad, Farzad and Shokri, (2005) found that there is a positive significant relationship between openness, conscientiousness, extraversion and agreeableness with problem-based coping style. This is since, people with openness personality trait are likely to be imaginative, flexible and are also inclined toward new activities and ideas which expose them to the use of adaptive coping styles; those with conscientiousness tend to be efficient and organized and almost like the extraverted, the agreeableness are friendly and compassionate (Soto, 2018) ^[37].

The association between depression and coping strategies has also been found (Knowles, Cook, & Tribbick, 2013; Haghighi, 2013; Peterson, Newton, Rosen, & Skaggs, 2006; Kruger, 2016) ^[33]. It has been found that the development of depression among sexual assault survivors is influenced by maladaptive coping (Najdowski & Ullman, 2011). Ullman and Najdowski's study found that women who were victimized reported more depression than did the non-victimized. This effect was explained in part by victimized women's increased maladaptive coping. A study done among sexually abused children in a Malay community in Malaysia, revealed that children with severe depression were utilizing emotion-focused strategies by doing the following: deciding that nothing could be done to change things, were in denial, and suppressed their feelings (Hussain, Yusoff, Sulaiman (2009).

Despite efforts done by relative studies to examine whether personality traits, depression and coping strategies are significantly related, remains an open question. Most of the studies indicated a strong relationship among these study variables. However, this current study was to replicate these studies but with a different population (female victims of sexual violence in Goma/DRC) to find out whether there was a relationship between personality traits, depression and coping strategies among sexual violence victims which scholars had not yet addressed.

2. Related Literature

Personality is suggested to be a major risk factor for depression. Personality dysfunction has been associated with poor outcome of depression, increased risk of suicide, and extensive use of treatment (Newton-Howes, Tyrer, Johnson, Mulder, Kool, Dekker & Schoevers, 2014 & Leichenring, Leibing, Kruse, New, & Leweke, 2011) ^[29]. However, there are at least six alternatives and partially overlapping theoretical models (i.e., common cause, spectrum, vulnerability, precursor, pathoplasty, and scar/complication) that have been proposed to explain the relationship between personality and depression, and all these models have been supported to some degree (Watson & Clark 1995; Enns &

Cox, 1997) ^[43].

The common cause model posits that common determinants, for example genetic factors, explain the association between personality and depression; the finding that neuroticism and depressive symptoms share a large genetic background is consistent with this possibility (Kendler, Gatz, Gardner & Pedersen, 2006) ^[24]. The spectrum model postulates that high neuroticism and depressive symptoms are different manifestations of the same underlying processes. This model implies that depression is defined by symptoms as well as personality style and is discussed in particularly in relation to atypical depression (Parker & Crawford, 2007) ^[31].

According to the vulnerability model, personality represents a risk or contributing factor for the depression onset (e.g., high neuroticism either causes depression or enhances the impact of other depression risk factors such as stressful life events (Vinkers, Joels & Milaneschi, 2014) ^[40]. In the pathoplasty model, personality does not directly cause depression, but once depression has developed, personality influences the severity of pattern of symptoms (Wilson, DiRago & Iacono, 2014) ^[44]. Finally, whereas the scar model suggests that depression causes persistent personality change, the complication model suggests that this change is likely to be only temporary (Karsten, Penninx & Riese, 2012) ^[22].

The study of Eke and Onyenirionwu, (2015) among raped women found that introverts experience more psychological distress. This may be found in their solitary life or wanting to be alone most of the time thereby availing them from having much social contact. These social contacts may have served as a buffer to their distress. Moreover, introverts may have difficulties in seeking out for therapy, counseling and/ or other psychological help that may have helped in curbing the effect of rape on them.

Many studies point out positive and significant correlations between personality trait and depression (Akram, Gardani, Akram, & Allen, 2019; Hakulinen *et al.*, 2015 & Kim, Kim, Cho, Kwon, Chang, Ryu, & Kim, 2016) ^[1, 11]. The result from the study of Hakulinen *et al.* (2015) ^[11] shows that low extraversion, high neuroticism, and low conscientiousness were associated with depressive symptoms in both cross-sectional and longitudinal analysis. However, these authors found some evidence that the association between personality and depressive symptoms might be bidirectional. The evidence of reverse causation was found because depressive symptoms predicted change in all personality traits. Additionally, Chow and Roberts (2014) found evidence of the potential importance of personality trait change in predicting changes in depression.

Hankin, (2010) ^[13] in his study based on the cognitive vulnerability-transactional stress theory, he examined the relationship between personality and depressive symptoms and found that individuals with higher scores at baseline on trait negative emotionality-stress reaction appear to be at greater risk for experiencing and maintaining depressive symptoms, at least in part because they generate additional stressors for themselves over time. Other dimensions of personality traits such as conscientiousness, agreeableness, openness to experience, etc. have been studied in relationship to depressive symptoms. However, it has been argued that research in this field may be biased in favor of publishing positive results. Most of the studies done on this topic had population-based sample insufficient size. Thus, published evidence may have overestimated the strength of the personality and depression association.

Coping is believed to be influenced by personality of an individual (Nisa & Rizvi, 2017) ^[30]. Evidences show that depression was negatively correlated with emotion-focused

and problem-focused coping style scores (Asgari, Sadeghi & Abedini, 2013; Larson & Ham, 1993; Lee-Bagley, Preece & Delgonis, 2005; Nisa & Rizvi, 2017 & karimzade & besharat, 2011) [3, 30, 21].

The findings of Asgari, Sadeghi & Abedini (2013) [3] corroborate with the preceding. The result shows that people with high neuroticism in dealing with stressful occasions, use from passively methods like retreating, daydreaming and methods on the bases of quarrelsomeness. The negative relationship of neuroticism with problem-based indicates that people with high neuroticism; use less from problem-based style. Extraversion people because of being more energetic, happy and sociable, summon courage and being intimate and incisive, use more from confronting agreeably forms such as seeking social support, positive thinking and problem-based coping style. Also, open-minded people are curious and reasonable and have liberalism attitude and they can tolerate difficulties and respect to difference in thinking and behavioral and this increase of curiosity and acceptance of new ideas cause that open-minded people use more from problem-based style. Conscientious people for having effective traits, capability, taking responsibility in dealing with difficult situation, use more from problem-based style. Furthermore, Vollrath and Torgersen (2000) [41] discovered that individuals high in neuroticism and low in conscientiousness were most vulnerable to stress and coped in "maladaptive" ways, this correlates with the study of McCrae and Costa (1986) [10] which states about neuroticism that, is related significantly to the use of hostile reaction, escapist fantasy, self-blame, sedation, withdrawal, wishful thinking, passivity and indecision, coping styles which these authors term immature or neurotic coping. Unlike, individuals low in neuroticism and high in conscientiousness coped in "adaptive" ways and were relatively resistant to stress. Therefore, according to Kaur, Chodagiri, and Reddi (2013) [23] people with neurotic and psychotic traits are more likely to use maladaptive coping methods and so become even more prone to stress. Extroverts are less likely to suffer from stress by using good coping skills like positive distraction.

Another study that was focused on Eysenck's personality scheme rather than the more dominant five factor model or big five model of personality posits three main dimensions: Neuroticism, Extroversion, and Psychoticism and found that neuroticism was related to a reduction in the likelihood of engaging in problem-directed coping (e.g. behavioural disengagement, denial, lost temper), whereas extroversion has been shown to be related to an increased use of emotion-directed coping (e.g. positive reinterpretation and growth, joked about it, sought social support) (Costa *et al.*, 1996; Watson & Hubbard, 1996) [10].

The relationship between depression and coping has also been studied and the link between them was found from the literature. It is important to notice that the direction of causality was differently discussed by the scholars. Araya, Chotai, *et al.* (2007) [2] report that the types of life events exposed to by an individual are in general influenced by the coping strategies employed by him/her and vice versa. The result of their study suggested that most likely trauma during displacement led to increased use of emotion-oriented coping in both gender and task-oriented coping in women. The findings brought out gender differences in the coping mechanism. The findings among parents with down syndrome children found that fathers reported more used of problem-focused coping than did mothers, although both groups frequently employed coping strategy was active avoidance (Hayat & Zafar, 2015) [14].

In a study among HIV/AIDS patients under antiretroviral therapy, the findings asserted a positive and significant relationship between depression and avoidant coping reflected that higher the level of depression, the greater the degree of engagement in avoidant coping and vice versa (Kaneez, 2016). However, the opposite relationship was found by many scholars. Trott (2012) argues that coping strategies may have an association with the development and maintenance of depressive symptoms. This study focused mainly on three voluntary coping factors: primary control engagement coping (e.g., emotional expression, problem-solving), secondary control engagement coping (e.g., positive thinking, acceptance, cognitive restructuring) and disengagement coping (e.g., avoidance, wishful thinking, denial). The findings revealed both primary control engagement coping and secondary control engagement coping were related to depressive symptom scores. Therefore, the author suggested that the result must have been affected by the sample that was educated, affluent and well-employed persons. People with these characteristics may already tend to employ adaptive skills across life domains.

Regarding the mentioned literature, the relationship between depression and coping strategies was largely established by researches. Peterson, *et al.* (2006) [33], conducting a study on coping with infertility, found that it was not the diagnosis per se that underlay men's distress but a tendency to accept/not accept responsibility for the problem. In the same way, Iova *et al.* (2014) [17] assert that there is consistent evidence in the literature that the use of problem focus coping instead of emotion focus coping strategies are associated with a better adjustment to disease-related challenges. At last, Kim (2012) found the relationship between types of social support, coping strategies and psychological distress. The finding reveals that individuals with low perceived and received social support tended to use more wishful thinking coping strategies, which in turn tend to increase their level of anxiety and depression.

3. Material and Methods

The study employed a quantitative approach and a correlational research design as well. This was because the study aimed to examine the relationship between personality traits, depression and coping strategies. The target population for this study consisted of all female victims of sexual violence in Heal Africa hospital and Kyeshero hospital in Goma/DRC. The sample was determined by a simple random sampling technique to recruit participants into the study. The simple random sampling technique was used to achieve an unbiased sample and to ensure equal and fair representations as well. To achieve this a sampling frame which is a list of all members of the population was created, a random number was assigned to each participant in the population and then to minimize any biases, the lottery method was applied with no replacement. However, given the sensitivity of the research topic, not all participants who were selected agreed to participate in the study. The study population from the reports of the two hospitals was 111 individuals which could give us a sample of 86 respondents, this sample size was determined by using the table developed by Krejcie and Morgan (1970). Therefore, only 76 respondents gave their consent to participate in the study.

Data was collected using the questionnaires that contain four sections; Section A measured the biodata that is the background information of the respondents: age, marital status, level of education, religion and duration since the sexual violence event occurred; Section B measured personality traits using the Big Five Inventory–2 Short Form (BFI-2-S) including 5 domains such as extraversion, agreeableness, conscientiousness, neuroticism, and open-mindedness. This instrument consists of 30 items with a common stem of "I am someone who". Each item consists of six descriptors that represent a pole of the Big-Five personality dimensions and is rated on a 5-point scale ranging from 1 (disagree strongly) to 5 (agree strongly). The developers of the scale supported the reliability and validity of the measure (Soto & John, 2003).

Section C measured depression using the Beck Depression Inventory short version (13 items) developed by Beck and Beck (1972). The BDI was used to measure the victim's current depression symptoms. The shortened BDI has 13 items that were selected based on their high correlations with the total BDI score and their correlation with the clinical ratings and the item's content includes sadness, pessimism, sense of failure, dissatisfaction, guilt, self-dislike, self-harm, social withdrawal, indecisiveness, self-image, work difficulty, fatigue, and appetite. The participant's score is the sum of items total. The authors suggested the following cutoffs, 0-4: none or minimal, 5-7: mild, 8-15: moderate, 16+ severe. The BDI-13 indicated good reliability with cronbach's alpha of .85 and strong construct validity based on moderate to strong positive correlations with other measures of mental health issues.

Section D measured coping strategies using the Brief COPE (Carver, 1997). This instrument was used to find out the strategies the participants employed to cope after the ordeal of sexual violence. It is a 28-items self-report scale assessing maladaptive (negative) and adaptive (positive) coping strategies (Carver, Scheier & Weintraub, 1989:267). Maladaptive coping strategies had twelve items (1,3,4,6,8,9,11,13,16,19,21,26), such as using alcohol as a way of forgetting about the incidence, blaming themselves items, and were scored at a 1-4 point scale: 1=1 haven't been doing this at all; 2=1 have been doing this a little bit; 3=1 have been doing this a medium amount; 4=1 have been doing this a lot, whereas adaptive coping, consisting of 16 items (2,5,7,10,12,14,15,17,18,20,22,23,24,25,27,28) such as turning to work, home chores as way of disengaging from the stressor, items were scored the same way as for maladaptive coping strategies (Ullman & Najdowski, 2009:46). No items are reverse scored. There is no overall total score, only total scores for each of the subscales by summing the items of each of the subscales. The high score on each subscale indicates more use of that coping strategy and low score indicates less use of that coping strategy. The Brief COPE is a psychometrically sound instrument that shows measurement invariance across samples et good reliability (.87).

The reliability of the instruments was done through pilot testing. A sample of 20 participants from Panzi hospital answered the questionnaires on all study variables. Data were entered using SPSS (21) and Cronbach's alpha score was run. All the questionnaires with the Cronbach's alpha score of .70 and above were considered reliable. The validity of the

instrument was assessed by a professional psychologist from the School of Psychology who either agreed or disagreed with each item as a correct measure of what the questionnaires intend to measure. The big five personality inventory was found reliable in the study done by Morgan and De Bruin (2012) among south African university students. For the Brief COPE instrument, Cronbach's test was done for reliability in many studies done among stressed people (Jordaan, Spangeberg, Watson, Fouchè, 2007). For example, in the study of Zulwayo (2013) done among sexually assaulted survivors in South Africa, the Brief COPE was found to be reliable with Cronbach's Alpha score of .72

The study observed the following considerations: ensure that participants identity is concealed, ensure the participants of their free-will to participate in the study and inform them about their rights to withdraw from participating in this research without seeking permission, that is to say, the participants were not coerced to participate in the study. The researcher followed all the professional guidelines of researchers including the acquisition of approval from the Department of Community Psychology and Mental Health, School of Psychology, Makerere University to enable data collection from Heal Africa and Kyeshero hospital. The researcher sought permission to carry out the study from the selected hospitals. Participants who fit in the inclusion criterion were identified through the hospital files. Selected participants were informed about the purpose and procedures of the study and notified of the possible benefits of participating in the study emphasizing the aspect of confidentiality with which the findings were treated. Once the consent was obtained, participants were requested to fill the given questionnaires if needed with the help of the researcher and the researcher's assistance who was instructed and trained beforehand on how to use the instruments. Data collection for the participants who could not read and write was done through the assistance of the researcher who used the Kiswahili translation of the questionnaires. The researcher interviewed the participants by reading for them the questions and then completed the answers. The administration of the instruments was done within approximately 30 minutes per respondent.

The data was cleaned by labeling and coding because of errors that may occur during the information collection process; then the cleaned data have entered the computer using a statistical package for social sciences, SPSS (21) that was used for data entry and data analysis. Descriptive statistical analysis (frequency count, percentage) was used to describe research sample biodata information. The Pearson product-moment correlation (r) was used to test hypotheses 1, 2 and 3. This is because the data collected was continuous in nature and because the study intends to examine the relationship between two variables.

4. Results and discussion

The purpose of the study was to examine the relationships among personality traits, depression, and coping strategies among female victims of sexual violence. The results obtained from testing these hypotheses and the findings regarding the background characteristics of the respondents are presented below.

Background Characteristics

Table 1: Biodata/Information of the Respondents

Items	Responses	Frequency N=76	Percentage
Age	18-24	17	22.4
	25-31	22	28.9
	32-38	20	26.3
	39-45	12	15.8
	46-52	5	6.6
Marital Status	Married	44	57.9
	Single	21	27.6
	Divorced	4	5.3
	Widow	7	9.2
Level of Education	Never went to school	19	25.0
	Primary	19	25.0
	Secondary	36	47.4
	University	2	2.6
Religion Occurrence of the violence	Protestant	23	30.3
	Catholic	39	51.3
	Muslim	3	3.9
	Others	11	14.5
	Less than 1 month	12	15.8
	2-6 months	25	32.9
	7-11 months	27	35.5
	12 months and beyond	12	15.8

Frequencies using percentages.

Levels of depression, personality traits and nature of coping strategies

Table 2: Respondent's Response in the Level of Depression

Depression	Frequency	Percentage
Minimal depression	15	19.7
Mild depression	24	31.6
Moderate depression	25	32.9
Severe depression	12	15.8
Total	76	100%

Frequencies using percentages.

Frequencies using percentages.

Table 3: Respondent's Response in the Score of Personality Traits

Personality traits	Low Scored N (%)	High Scored N (%)
Neuroticism	41(68.5)	35(31.5)
Extraversion	44(57.9)	32(42.1)
Conscientiousness	5(6.5)	71(93.5)
Agreeableness	3(3.9)	73(96.1)
Open mindedness	26(34.1)	50(65.9)
Total	76	100%

Table 4: Nature of Coping Strategies

Categories of coping strategies	Subscales of coping strategies	Less Utilized N (%)	Most Utilized N (%)
Adaptive coping strategies	Active coping	32(42.1)	44(57.9)
	Emotional support	19(25)	57(75)
	Instrumental support	17(22.3)	59(77.7)
	Positive reframing	46(60.6)	30(39.4)
	Planning	18(23.7)	58(76.3)
	Humor	65(85.6)	11(14.4)
	Acceptance	38(50)	38(50)
Maladaptive coping strategies	Religion	7(9.2)	69(90.8)
	Self-distraction	24(31.5)	52(68.5)
	Denial	16(21.1)	60(78.9)
	Substance use	69(90.8)	7(9.2)
	Venting	17(22.4)	59(77.6)
	Self-blame	57(75)	19(25)
	Behavioral disengagement	36(47.4)	40(52.6)

Frequencies using percentages.**Relationship between Personality Traits and Depression****Table 5:** Relationship between Personality Traits and Depression

Personality Traits		Depression
Neuroticism	Pearson correlation	.777**
	Sig. (2 tailed)	.000
Extraversion	Pearson correlation	-.237*
	Sig. (2 tailed)	.043
Conscientiousness	Pearson correlation	-.185
	Sig. (2 tailed)	.110
Agreeableness	Pearson correlation	.104
	Sig. (2 tailed)	.369
Open-Mindedness	Pearson correlation	.086
	Sig. (2 tailed)	.461
N		(76)

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

Relationship between Personality Traits and Coping Strategies**Table 6:** Relationship between Personality Traits and Coping Strategies

Personality Traits		Adaptive coping Strategies	Maladaptive coping strategies
Neuroticism	Pearson correlation	-.277*	-.102
	Sig. (2 tailed)	.015	.381
Extraversion	Pearson correlation	.185	.100
	Sig. (2 tailed)	.110	.389
Agreeableness	Pearson correlation	-.058	.170
	Sig. (2 tailed)	.620	.142
Conscientiousness	Pearson correlation	.195	.028
	Sig. (2 tailed)	.092	.807
Open-Mindedness	Pearson correlation	-.190	-.144
	Sig. (2 tailed)	.100	.214
N		(76)	(76)

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

Relationship between Depression and Coping Strategies**Table 7:** Relationship between Depression and Coping Strategies

Depression	Adaptive coping Strategies	Maladaptive coping strategies
Depression		
Pearson correlation	-.360**	-.133
Sig. (2 tailed)	.001	.252
N	76	76

**. Correlation is significant at the 0.01 level (2-tailed).

5. Discussion**Relationship between personality traits and depression among sexual violence victims in Goma/DRC**

The first objective of the study was to examine the relationship between personality traits and depression. The corresponding hypothesis stated that there was a significant relationship between personality traits and depression. The findings revealed that only two personality traits, extraversion and neuroticism were significantly related to depression whereas agreeableness, conscientiousness and open-mindedness traits were not related to depression.

The link between neuroticism and depression was found in plethora of studies (eg: Leow, Lee & Lunch, 2016; Vinberg & Vedel, 2006; Karsten, Penninx, Riese, Ormel, Nolen & Hartman, 2012; Koorevaar, Comijs, Dhondt, Van Marwijk, Van Der Mast, Naarding & Stek, 2013; Kotov *et al.*, 2001), it was also confirmed in the current study. Compared to individuals with low levels of neuroticism, those with high levels of neuroticism are more sensitive and nervous, they often feel vulnerable or insecure, get stressed easily, struggle

with difficult situations, therefore, they are more exposed to stressful events resulting into breakdown mental health. Such a relationship is explained by the fact that in real life, most likely sexual violence survivors experience many psychological problems, such as loneliness, social anxiety, depression, suicidal ideations, among others.

The findings also found that extraversion was significantly related to depression. The findings were consistent with past research indicating that low extraversion is associated with greater enhancement of depression (e.g: Klein, Kotov & Bufferd, 2011; Kotov *et al.*, 2010; Kikhavani & Taghinejad, 2015; Jourdy & Petot, 2017; Junni, 2017; John, O. P., Robins & Pervin, 2010). Extraverted individuals enjoy socializing with others, are comfortable expressing themselves in group situations, and frequently experience positive emotions such as enthusiasm and excitement. These individuals are rarely vulnerable to depression while going through a stressful situation.

The results of the present study have revealed that there is no relationship between agreeableness and depression. This means that the vulnerability to develop or not depression in this study does not necessarily depend on the agreeableness trait. Similarly, a study conducted by Kotov *et al.*, (2010), found a weak and unremarkable association between agreeableness and depression. Like agreeableness, conscientiousness seems to be unrelated to depression as revealed in the results of the present study. Hence, the present study is in the line with the studies of Junni, (2017) and Bienvenu *et al.*, (2010) that found no links between conscientiousness and depression. In contrast, a meta-analysis by Klein *et al.*, (2011) and Kotov *et al.*, (2010) suggest the link between low conscientiousness and

depression. Furthermore, the present study did not corroborate with the findings of Jourdy and Petot, (2017) that found a negative relationship between conscientiousness and depression. This could be due to the reliance on a shortened version of a self-report personality measure that the present study used.

There was no correlation found between open-mindedness and depression in the current study. Thus, the findings of the present study disagree with Bienvenu *et al.*, (2004) who reported a slight positive relationship between open-mindedness and depression. The positive relationship in the study of Bienvenu *et al.*, (2004) was found between open-mindedness to feelings, a facet of open-mindedness, not the open-mindedness sum factor and depression. Since the present study did not look at the facets, it is not possible to compare its findings with Bienvenu's *et al.* Therefore, the present study is in the line with the study of Kotov *et al.*, (2010) that found no association between open-mindedness and depression.

The current study is not in agreement with other studies which found the relationship between agreeableness, conscientiousness, open-mindedness and depression, this could be explained to the use of different tools to measure both the personality traits and depression than what others used. Also, it could be that there are some other factors that prevent the development of depression among the victims of sexual violence in Heal Africa and Kyeshero hospitals, such as social support, no matter the type of personality that has a victim.

Relationship between personality traits and coping strategies among sexual violence victims in Goma/DRC

The second objective of the study was to examine the relationship between personality traits and coping strategies. The corresponding hypothesis focused on ascertaining whether personality traits and coping strategies are significantly related. The findings revealed that there was a significant negative relationship between neuroticism and adaptive coping strategies, whereas extraversion, agreeableness, conscientiousness and open-mindedness traits were not related to none (adaptive or maladaptive) of the categories of coping strategies.

The present study was consistent with the findings of Liu *et al.*, (2020) that revealed a significant negative relationship between adaptive coping strategies and neuroticism. In the same way, Nisa and Rizvi, (2017) and Afshar, Roohafza, Keshteli, Mazaheri, Feizi and Adibi, (2015) found neuroticism to be negatively correlated with active adaptive coping and positively correlated with avoidance coping. This could be because individuals with high neuroticism are susceptible to psychological helplessness, irrational thought and have less ability to control their impulses (Soto, 2018). Given the vulnerability to distress, these individuals get involved in passive coping styles. In day-to-day life, sexual violence survivors with a neuroticism trait tend to experience too much emotional distress. Thus, they are likely to become unable to cope effectively with stress.

There was no link between extraversion and coping strategies (adaptive or maladaptive) in this present study. Thus, this study is inconsistent with the study of karimzade and besharat (2011) and Nissa and Rizvi (2017)^[30]. These scholars found extraversion to be positively correlated with active adaptive and negatively correlated with avoidance coping. According to Soto (2018), extraversion involves sensitivity to reward, positive emotions, sociability, assertiveness and high energy. In addition, Nissa and Rizvi (2017)^[30], stated that extraversion may encourage support seeking and therefore,

engage in positive coping strategies.

The present study does not support various studies (e.g: Leszko, Iwański & Jarzębińska, 2020; karimzade & besharat, 2011; Chwaszcz, Lelonek-Kuleta, Wiechetek, Niewiadomska & Palacz-Chrisidis, 2018; Nissa & Rizvi, 2017)^[30] that found a positive correlation with conscientiousness and positive emotion-focused coping styles and negative correlation with negative emotion-focused coping styles. In explaining these findings, these authors believe that individuals with high conscientiousness are considered to be a goal oriented, work persistently, prefer order and committed to fulfilling their duties and obligations. Thus, while facing stress they are good planners and extremely logical decision-maker, these individuals tend to use positive coping strategies. In the same way, a study done by Cohan, Jang and Stein (2006) found that agreeableness is negatively correlated with avoidance coping which is also consistent with the fact that agreeableness involves high levels of trust and concern for others (Soto, 2018).

Lastly, the present study found no connection between open-mindedness and coping strategies. This study does not support the findings of the study of Leszko *et al.*, (2020) that open-mindedness was found to be negatively correlated with avoidance coping strategies (, 2020). The disagreement the present study with a various study on the relationship between personality traits, depression and coping strategies could be to the instruments that most of these studies used to measure personality traits, the Neo Five-Factor Inventory (NEO-FFI), which was different from what the present study used.

The non agreement of the present study with others regarding to the relationship between some personality traits (extraversion, agreeableness, conscientiousness and open-mindedness) and coping strategies could result to the use of coping strategies instruments other than the brief cope used in the current study as well as the personality trait instrument which was different from the NEO-FFI used by others researches.

Relationship between depression and coping strategies among sexual violence victims in Goma/DRC

The third objective of the study was to examine the relationship between depression and coping strategies. The corresponding hypothesis was about establishing whether depression and coping strategies are significantly related. The findings revealed that there was a significant negative relationship between depression and adaptive coping strategies. The present study found that the more sexual violence victims were depressed, the less positive or adaptive coping strategies they utilized.

The results of the present study agree with those found in a study done by Sawhney, Kunen and Gupta (2020). Their findings found that the high depressive individuals were less likely to use positive coping strategies. In addition, the present study supports other many past pieces of research that have demonstrated a close relationship between depression and coping strategies (e.g: Skapinakis, Bellos, Oikonomou, Dimitriadis, Gkikas, Perdikari & Mavreas, 2020; Ehring, Tuschen-Caffier, Schnülle, Fischer & Gross, 2010; Tsaras, Daglas, Mitsi, Papathanasiou, Tzavella, Zyga & Fradelos, 2018; Fukase, Ichikura, Murase & Tagaya, 2021; Yıldız, *et al.*, 2017; Orzechowska, Zajączkowska, Talarowska & Gałecki, 2013).

The study by Skapinakis *et al.*, (2020) showed that participants with lower levels of depression were using positive coping strategies along showing high levels of personal treatment control. Also, the study by Fukase *et al.*,

(2010) concluded that the depression group used many more ineffective coping strategies than the no-depression group, that is self-blame and behavioral disengagement. Sugiura (2002) believes that when an individual is confronted with stressful circumstances adopting a passive strategy to cope with stress can lead to negative thinking which in turn, can cause psychological distress such as depression (Tsaras *et al.*, 2018). Therefore, it is not surprising that depression would reduce adaptive coping capacity and increase the use of avoidance coping strategies (Sadaghiani, 2013). However, the present study does not corroborate with the study of Zulwayo (2013) which findings showed that there was no relationship between adaptive coping strategies and depression among sexual assault survivors, a study done in South Africa. On the other hand, the present study and Zulwayo's are consistent to the conclusion depression was not related to maladaptive coping styles.

6. Conclusion

The current study provided a more complete picture of the relationship between personality traits, depression and coping strategies among female victims of sexual violence in Goma/ DRC. Results clearly showed that there was a significant relationship between neuroticism and depression and a significant negative relationship between extraversion and depression. Such relationships indicate that sexual violence survivors with neuroticism personality trait could easily be candidate to depression when they were exposed to stressful events. In the same way, those with extraversion traits could easily avoid depression because of the attitude of socializing with others that they had while going through a stressful moment. However, the findings did not show any relationship between agreeableness, conscientiousness, open-mindedness and depression. This means that the vulnerability to the development of depression in this study is not related to agreeableness, conscientiousness and open-mindedness traits.

Neuroticism and coping strategies in adaptive way were found to be significantly negatively related among sexual violence victims. This relationship implies that sexual violence victims with such trait, neuroticism, reduced use of adaptive (positive) coping strategies. The non-association between extraversion and coping strategies; conscientiousness and coping strategies, agreeableness and coping strategies, and open-mindedness and coping strategies was found in this study. Such non-association implies that the use of either positive coping strategies or negative coping strategies among sexual violence survivors in this study does not necessarily depend on extraversion, conscientiousness, agreeableness and open-mindedness personality traits they have. The findings also show that there is a significant negative relationship between depression and adaptive coping strategies. Thus, sexual violence survivors with depressive symptoms reduced the use of adaptive coping strategies. In other words, they coped poorly with challenges.

7. Recommendations

Basing on findings which revealed that neurotic and extraversion personality traits are correlate with depression, I recommend that professional mental health providers should receive specific training programs for managing psychological distresses among victims of sexual abuse. They should understand the relationship between personality traits, depression and coping strategies and determine the personality features and coping strategies among sexual violence survivors. This will help develop suitable models of treatment for depression and as well as identifying survivors

in need of particular counseling and support.

Basing on findings which revealed that depression and coping strategies are related, the researcher recommends that the ministry of health and the ministry of gender, labor and social development should put focus on mental health and on empowering more professional psychosocial providers. Sexual violence survivors should be taken care of by mental health professionals who are equipped with both resources and motivation to fit the unique needs of survivors. This can be done through training more psychological service providers, following them up and empowering them with enough resources and motivating them to provide the best services expected.

Recommendations for Future Research

The relationship between personality traits and depression was found to exist (only for neuroticism and extraversion) and the relationship between personality traits and coping strategies was found (for neuroticism). This study finding could have been inferenced on by the fact that the study population included only females, therefore only females were recruited to participate in the study. However, the relationship between personality traits, depression and coping strategies might be different if both males and females are recruited and studied jointly. Thus, future studies should aim to study the variables under this study among both male and female survivors.

Conflict of interest

The authors declare that they have no conflict of interest.

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